

REMARKS

Upon careful and complete consideration of the Office Action dated March 11, 2004, applicants have amended the claims which, when considered in conjunction with the comments herein below, are deemed to place the present application into condition for allowance. Favorable reconsideration of this application, as amended, is respectfully solicited.

The Office Action rejected claims 1-15, 17 and 18 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,723,167 to Lewis et al. (hereinafter referred to as "Lewis et al.") taken in view of U.S. Patent 3,950,560 to Rahman et al. (Herinafter referred to as "Rahman I") and U.S. Patent 4,109,026 to Rahman et al. (herinafter referred to as "Rahman II"). The Office Action further rejected claim 16 under 35 U.S.C. §103(a), as being unpatentable over the same references as applied to claims 1-15, 17 and 18, and further in view of U.S. Patent No. 4,735,816 to Sterner et al. (hereinafter referred to as "Sterner et al.").

The Office Action has cited Lewis et al. for allegedly disclosing a product and process of making a dehydrated vegetable by dehydrating a vegetable piece to between 15 and 60% and compressing the vegetables. The Office Action was of the opinion that the claimed invention differs from Lewis et al. in the step of further dehydrating to a moisture content of 12% or lower and relied on the teachings of Rahman I and II for disclosing same. Consequently, the Office Action concluded that it would have been obvious to dehydrate to a lower degree in the process of Lewis et al. using the further dehydrating steps of Rahman I and II. Sterner et al. was cited for the purpose of teaching the pressing of vegetables within the claimed range of claim 16.

Before addressing the specific rejections, applicants wish to submit the following remarks concerning the cited references. Lewis et al. relates to a partially dehydrated

vegetable capable of being preserved by freezing. Said reference addresses the problem of reducing freezing, packaging and storage costs of frozen vegetables by reducing the water content and compressing said vegetables. Advantageously, the vegetables prepared by this method remain flexible when stored at temperatures in the range 0°C to -40°C and may have a longer shelf life. Lewis *et al.* do not teach or suggest that the process described therein provides vegetables that may be stored at room temperature. Furthermore, the vegetables therein are very clearly described as partially dehydrated.

Rahman I relates to dehydrated vegetables of increased density, which have good storage stability, for example, when stored for at least 3 years at 70°F or at least 6 months at 100°F (column 4, lines 40-42). These dehydrated vegetables are not stored under freezing conditions as required for the partially dehydrated vegetables of Lewis *et al.* In Rahman I, the dehydrated vegetable is prepared by pre-drying the vegetable, compressing the vegetable at a pressure of 200psi to 4000psi and then re-drying the compacted vegetables such that it has a water content of about 1% to 5% by weight (see column 4, lines 38-41 of Rahman I).

Rahman II relates to a process for producing dehydrated uncooked cabbage which is stored in a hermetically sealed moisture proof container, which can be stored at 20°C or alternatively can be stored for at least 6 months at 40°C (see column 4, lines 30-33 of Rahman II). The invention therein relates specifically to cabbage which has unique requirements. It particularly addresses the problem that:

"freezing of cabbage so severely damages the cellular structure of cabbage that, even though the cabbage may be freeze-vacuum-dehydrated to permit safe, prolonged storage the reconstituted cabbage product is very mushy even without being cooked"

(see column 1, lines 25-30 of Rahman II). Thus cabbage is not suitable for being frozen.

Sterner *et al.* relates to instant beans prepared by dehydrating bean flakes, which have been precooked. The instant beans are suitable for use in Mexican restaurants and Mexican fast food chains. It addresses the problem relating to reproducibility in the quality

of cooked beans, reduced cooking times for beans, storage and disposal of cans, which is inconvenient. It is an improvement over the prior art processes, which involve milling or rupturing the beans with rapid pressure changes. The invention that is described therein can be applied to:

"pinto beans garbonzo beans and peas as well as certain grains such as corn, wheat, rice, barely, triticale, oats, buck wheat".

(See column 4, lines 55-62 of Sterner et al.)

Thus, the teachings of Sterner et al. is limited to hard grains or pulses. A further aspect of this invention is that the beans or materials subjected to the process described therein must be precooked. Sample cooking times for beans include 4 to 6 hours (see column 5, line 5). These beans are then dehydrated and compressed (see column 6, lines 5-8) with further dehydration at 140°F to 300°F (see column 6, line 44). The compression step:

"insures that the internal cotyledon portion of the beans intricately fractures to a mealy structure ... which substantially decreases subsequent drying time".

(See column 9, lines 30-45 of Sterner et al.)

It is clear from a review of the cited references that dehydrated materials are those that can be stored at room temperature without further preservation and thus do not require freezing. In contrast, when the materials are only partially dehydrated, temperatures in the range 0°C to -40°C are required to adequately store the vegetables.

As amended, the present invention relates to a dehydrated shelf stable product prepared from a fleshy vegetable. Support for this amendment is found on page 2 of the subject specification, lines 1-4. The present invention addresses the problem of avoiding a gritty texture or a mushy texture in the reconstituted vegetable. Advantageously, the presently claimed invention also allows rapid reconstitution either instantaneously or in up to 5 minutes.

It is respectfully submitted that the problems encountered with frozen vegetables and dehydrated vegetables are very different and the two processes are alternatives to each other. Therefore, a teaching in respect of dehydration of a vegetable for storage at room temperature is not necessarily a teaching that can be applied to vegetables for freezing and *vice versa*. Furthermore, it is also clear that particular materials or vegetables have special requirements as exemplified above in relation to cabbage which is the subject of Rahman II. This is also illustrated with Sterner et al. specifically concerned with the problems related specifically to beans.

The claims of the presently amended application relate to processes applied to fleshy vegetables such as carrot, peas, pepper, tomato, sweet corn, onion, squash, chilli, zucchini, mushroom, cabbage, celery, green beans, beetroot and pumpkin. The teaching of Lewis et al. relates to frozen vegetable with a moisture content in the range of 15% to 60% and does not teach a dehydrated shelf stable vegetable according to the presently claimed invention. It is respectfully submitted that the words "dehydrated shelf stable vegetable" when read by a person skilled in the art imports the meaning of a vegetable storable at room temperature and not frozen and thereby limits the claim to the former. Whilst Lewis et al. does incorporate a compression step, this is to address a different problem, namely to reduce the storage space, which has significant cost benefits.

Any benefits in relation to the taste and texture of the frozen vegetable in Lewis et al. cannot be used to draw all inferences about dehydrated foods because of the significant differences in the storage condition. Any such made inferences based on Lewis et al. to obtain the teachings of the present invention amount to impermissible hindsight.

In contrast, the presently claimed invention addresses problems in relation to the taste and texture of dehydrated vegetables when reconstituted and also the time taken to reconstitute these vegetables. Admittedly, there are also cost benefits associated with the presently claimed invention as it avoids the necessity to freeze-dry vegetables, a process

which has been proven to be both expensive and unsatisfactory, especially for use in instant soups, pasta and noodle foods that simply require the addition of water, without further cooking.

The three step process in Rahman I of drying the vegetables, compressing the vegetables and subjecting the vegetables to further drying to provide vegetables that can be reconstituted with a desirable taste and texture is not compatible with the teaching of Lewis et al. directed to freezing vegetables which requires completely different considerations.

Furthermore, Rahman II teaches that freezing of cabbage is detrimental for the property of cabbage (see column 1, lines 25-34 of Rahman II) and thus is also inherently incompatible with the teaching of Lewis et al. Therefore, the teaching of Rahman II is limited to the preparation of dehydrated uncooked cabbage.

It is also respectfully submitted that the teaching of Sterner et al. is limited to pulses such as beans and hard grains such as rice, barely, etc. The present invention relates to fleshy vegetables which includes green beans, which are not pulses or hard grains, and also to peas, but only when fresh, not when dried and hard. The pulses and hard grains, which are the subject of Sterner et al. are never frozen even to this day and the skilled artisan would not consider the teaching of Sterner et al. and Lewis et al. to be compatible.

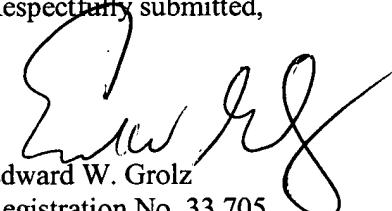
It is respectfully submitted that none of the above-identified references, either individually or in combination, teach or suggest the presently claimed invention which provides dehydrated vegetables suitable for storage on the shelf, but is not under reduced temperature conditions, which can be prepared in a two-step process, which have desirable properties when reconstituted and which reconstitute rapidly.

For completeness, it is noted that even if Lewis et al. could be combined with Rahman I, said combination would provide a process for providing a vegetable product with a moisture content of about 1% to 5% which is stored at temperatures in the range 0°C to -40°C. It is respectfully submitted that this is not the presently claimed invention.

It is respectfully submitted that the Office Action on page 2 thereof incorrectly stated that claims 1-13, 15, 17 and 18 differ only from Lewis et al. in the step of further dehydrating to a moisture content of 12% or lower. Not only does the presently claimed invention differ in relation to the moisture content, but also in the omission of freezing, which is an essential element of Lewis et al. This mistake is further perpetuated on page 4 of the Office Action, where the Examiner says "no limitation as to freezing are seen in the claims, which makes the references combinable". It is respectfully submitted that the documents must be given a reasonable interpretation in light of the teaching of the whole document to the skilled artisan. Given the reasoning described above, it is clear that a teaching in relation to frozen vegetables is not relevant to a teaching of dehydrated vegetables and therefore Lewis et al. is not combinable with Rahman I, Rahman II and/or Sterner et al.

The above amendment and remarks establish the patentable nature of all the claims currently in this application. Notice of Allowance and passage to issue of these claims, Claims 1-18, is respectfully solicited.

Respectfully submitted,



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